

TOWN OF SPRINGFIELD, NEW HAMPSHIRE

NATURAL RESOURCES INVENTORY – EXECUTIVE SUMMARY

March 2008



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Goals and Objectives

This project provides a base Natural Resource Inventory (NRI) with digital data that can be integrated with other available and future data. Information and data from this project is compatible with existing GIS data from other projects in surrounding towns, the watershed, and the State as a whole.

One of the goals of this project is to provide inventory, management recommendations, and planning tools for the Town of Springfield. Another goal of the project is to integrate all existing data for Springfield, with new data created and field verified from this project, including dense softwood stands and permanent opening areas. This produces a seamless comprehensive town-wide composite, and provides an educational and planning tool. It promotes conservation of riparian habitat, wetlands, and unique co-existing natural resource features throughout the town.

Measurable objectives of this project include the following:

1. Provide the Town of Springfield with new accurate, standardized coverages that can begin building a GIS database.
2. Incorporate natural resources, scenic vistas, cultural resources, and other related elements for comprehensive planning.
3. Increase awareness of the values of the rural characteristics of the Town including scenic view areas, recreation areas, riparian buffer habitat, and wetlands with associated wildlife habitat through a public presentation and discussion.
4. Provide the Town with the ability to produce hardcopy printouts of this new data as requested or needed.
5. Provide the Town with the ability to continue to build upon and update the digital database.

Results

The table displayed below is a summary of different habitat areas in acres and square miles.

Habitat Type	Number of Acres	Number of Square Miles	Percentage of Town Land Mass
Springfield Town Boundary	28,478.8	44.5	100%
Dense Softwood Cover	2,225.4	3.48	0.8%
Wetland Complexes (from National Wetland Inventory data)	1,607.3	2.51	5.6%
Hydric Soils (from Natural Resources Conservation Service data)	3,982.84	6.22	14.0%

Executive Summary - Natural Resource Inventory for Springfield, NH

Habitat Type	Number of Acres	Number of Square Miles	Percentage of Town Land Mass
Aquifers	568.51	0.89	2.0%
Permanent Opening	757.3	1.18	2.7%
Prime Farmland	427.34	0.67	1.5%
Farmland of Statewide Importance	477.74	0.75	1.7%
Farmland of Local Importance	5,132.22	8.02	18.0%
Steep slopes – 15% and greater	9,625.75	15.04	33.8%
Steep slopes – 25% and greater	2,559.50	4.00	9.0%
Conserved Lands • Including the Gile State Forest	8,479.60	13.25	29.8%

DISCUSSION – FUTURE APPLICATIONS AND BENEFITS

This project has compiled natural resource data into a digital database in GIS format and produced a written report for use in the Town of Springfield. It contains a database with a comprehensive, updatable, digital inventory of the entire Town. It is also anticipated that efforts from this project will aid in future work and inventories, as well as provide data to guide future development throughout Springfield.

It is anticipated that results from this study will help the Town of Springfield in many ways. Town-wide zones based on habitat and vegetation can be identified and classified. Data gathered from this work will also assist the Conservation Commission, Planning and Zoning Boards, and Select Board, in foreseeing possible conflicts of future development. Perhaps the most powerful advantage of this project is that future studies and events can be integrated to build upon this database indefinitely.

Based on results from this study, Watershed to Wildlife, Inc. has identified areas for additional work. They include the following:

1. **Wetland Identification and Protection** - There are several wetland complexes adjacent to brooks and their tributaries, and along some hillsides. The importance of conserving these wetlands cannot be over emphasized. It is hoped that the Town will continue to pursue ways to further inventory the functionality and vulnerability of these wetlands with a ranking system, and a long-term goal of Prime Wetland designations.

Executive Summary - Natural Resource Inventory for Springfield, NH

- a. An in-depth inventory of vernal pools throughout Springfield would also enable the Conservation Commission, Planning Board, and Select Board to critique and adjust future subdivision proposals if vernal pools are likely to be impacted.
 - b. The Town of Springfield should consider designating Prime Wetlands for some of its wetland complexes. The Conservation Commission should continue to explore designating some of the more vulnerable wetlands.
 - c. Compile previously delineated wetlands, documented wetland locations, and other areas containing wetlands; conduct future expanded wetland delineations according to the Routine Onsite Determination Method of the U.S. Army Corps of Engineers in the 1987 manual. This method meets New Hampshire requirements for standardized wetlands delineations.
2. **Shoreline Protection** - Most of the shoreline along the miles of streams and ponds have adequate to excellent vegetative buffers. There are some sections in Springfield where enhancement of the buffer by plantings would help maintain and improve water quality.
3. **Aquifer Protection** - Based on the locations and relatively small size of the underlying aquifers in Springfield, it is important that steps be taken to protect the groundwater, brooks, ponds and aquifers in town. Future water supplies are a very valuable natural resource, for Springfield and its abutting towns; proven by the drinking water systems already in use. They are:
- a. Implement Best Management Practices (BMPs) within aquifer areas.
 - b. Monitor septic system plumes with a focus on parcels adjacent to brooks, wetlands, and aquifers.
 - c. Monitor the placement of future septic systems keeping in mind the typically high permeability of many of Springfield's soils.
4. **Hillside and Ridgeline Protection** - Springfield's mountainous topography and abundance of Class VI roads are directly related to the Town's tourism industry, scenic beauty, and assortment of natural resources (wetlands, streams and rivers, wildlife, plants, soils, etc.). Research and considerations should be made towards evaluating and possibly updating the zoning ordinance in Springfield to conserve these unique and important natural features.
5. **Class VI Roads and Erosion** – Springfield contains many miles of Class VI roads and trails. Several locations, highlighted by the access to Aaron's Ledge and to a lesser degree a trail along Little Stocker Pond, have experienced severe erosion problem due to ATV and/or 4 wheel drive use. In some cases the erosion will be difficult to repair and without repair will rapidly worsen. Given the extensive miles of woods roads and trails, with hilly and steep gradients, the Town should implement a program to repair and maintain drainage structures, e.g. waterbars and 'get aways' with an enforcement system to prevent potential destruction of these areas. In some cases the sedimentation from erosion could be detrimental to nearby streams, ponds, and wetlands and cause degradation to water quality.
6. **Dense Softwood Stand Protection** - Based on results from this project, there is an adequate acreage of dense softwood stands scattered throughout Town, but connectivity to each other and wildlife travel corridors could be improved. Maintaining the existing stands for the benefit of the deer, moose and other wildlife populations is very important. Places to extend the existing softwood areas and connect patches of softwood in a continuum should be

Executive Summary - Natural Resource Inventory for Springfield, NH

further investigated and willing landowners should be encouraged to do so, particularly with abutting wetlands and-riparian buffers.

7. **Land Conservation** - Even though approximately 30% of Springfield's land is already conserved, in large part due to the Gile Memorial State Forest, continuing to explore lands to potentially conserve will further benefit the Town's natural resources. Focus should be on connectivity between already conserved parcels or looking at habitat types that are not currently well represented in conservation lands such as wetland complexes, permanent openings, and dense softwood areas. Springfield should continue to encourage landowners to place land into conservation easements.
 - a. Stewardship planning of these properties is recommended.
 - b. Investigating purchasing adjacent parcels to current conservation lands would increase and maintain existing wildlife travel corridors. It would be beneficial to the Town by maintaining the connectivity of forestlands, wetland complexes, and open space habitat.
8. **Scenic View Conservation** - The potential for a continued population increase throughout the Town makes it wise for landowners to sustainably conserve their land. By taking a proactive approach to deal with future development pressures, the scenic vistas and beauty will remain as impressive (or even better) tomorrow as they are today. Scenic easements are types of conservation easements that make protection of scenic resources possible.
9. **Natural Resource Planning at the Parcel Level** - The Town should consider upgrading the tax map to a GIS format and requiring new subdivision maps to be in GIS format. More accurate and detailed parcel information will aid in determining impacts of future subdivisions on natural resources, including wetlands and wildlife travel corridors.
10. **Interagency Cooperation** - It is hoped that Springfield will continue to work with other Towns, organizations, and agencies throughout the region to share future data as it becomes available. This will avoid an all too common problem of separate entities replicating work. An excellent example of cooperation is the partnership with the Gile Memorial State Forest management and the Town of Springfield; another is the working relationship with the New London - Springfield Water System Precinct.

Long-term uses of this project could include, but are not limited to: assisting the Town and others in determining "least-impact" sites for future development, telecommunication towers or wind farms; guiding refinement of the Master Plan based on impacts to natural resources; promoting a protection plan for the large aquifers under some of the Town; and further identification of land for purchase or easements for protection in the future. Furthermore, the Springfield is in a position to request that all future development plans be delivered in digital format, which would build upon the initial database as well as assist in updating the tax maps for assessment at little cost to the Town.